Abstract

The present invention relates to "FRP roofing material which is characterized in that it is a sandwich structure where a pair of sheets comprising FRP is arranged with a gap between them and a rib structure which joins said pair of sheets is interposed" and "a method of producing FRP roofing material where, in an RTM moulding method in which channels are provided in the core material and the reinforcing fibre impregnated with a resin distributed through these channels, there is used an RTM moulding method employing a core material having through-holes". As a preferred joint structure for the FRP roofing material relating to the present invention, there is the "FRP roofing material where two or more FRP sandwich structures are butt joined and, as well as providing an FRP connecting layer extending across the surfaces of both ends of said sandwich structures, there is provided a layer containing a resin distribution medium between the abutting end faces", and as the joining method thereof there is the "method for joining FRP roofing materials in which, when butt joining the end regions, as well as arranging a resin distribution medium between the abutting end faces, reinforcing fibre is arranged across the surfaces of the two end regions and, with the regions where the resin distribution medium and the reinforcing fibre are arranged being covered with an airtight material, a vacuum is applied to the interior and a resin injected into the resin distribution medium, and as well as distribution of the resin being effected as far as the reinforcing fibre region, there is impregnation of the reinforcing fibre and, by curing the resin, the end regions are integrally joined".

With the FRP roofing material of the present invention there is no fear of rusting and, furthermore, it is light in weight, possesses sufficiently high strength and rigidity, and can provide good heat insulation and also contribute to an enhancement in the earthquake resistance of buildings. Moreover, it can be readily moulded to any highly designed shape. Where a phenolic resin is used as the FRP matrix resin, or if a fire-resistant material is provided at the surface, it is possible to produce a roofing material which is outstanding in its fire resistance.

Furthermore, in accordance with the method of producing FRP roofing material of the present invention, even large-size roofing materials can be essentially integrally moulded, and on-site joining operations are facilitated, so it is possible to produce a desired FRP roofing material easily and cheaply.

Moreover, in accordance with the FRP roofing material of the present invention, the problems associated with conventional joint structures can be completely overcome, and the ends of the sandwich structures can be easily, firmly and cheaply joined together, and as well as ensuring high joint strength and rigidity, an excellent appearance can be achieved.